

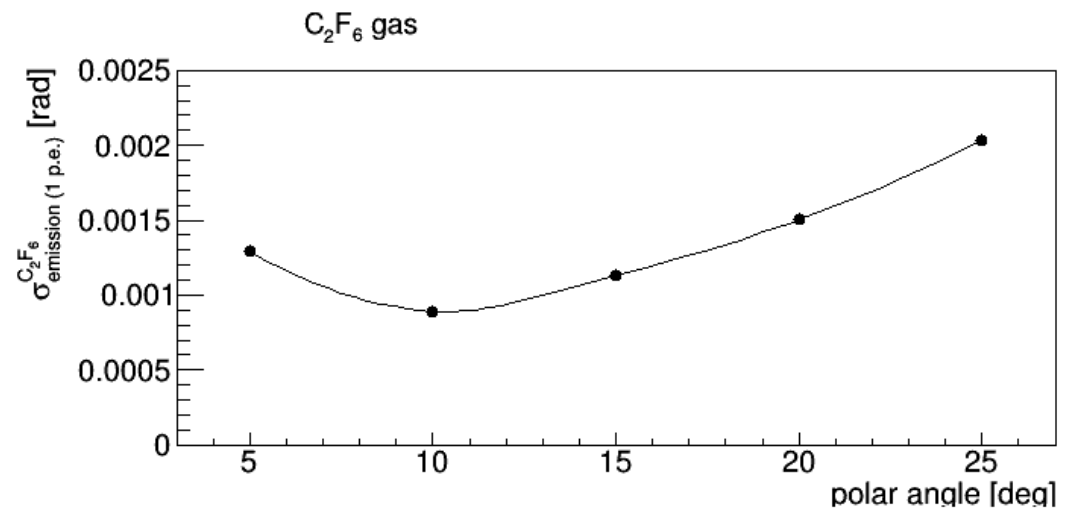
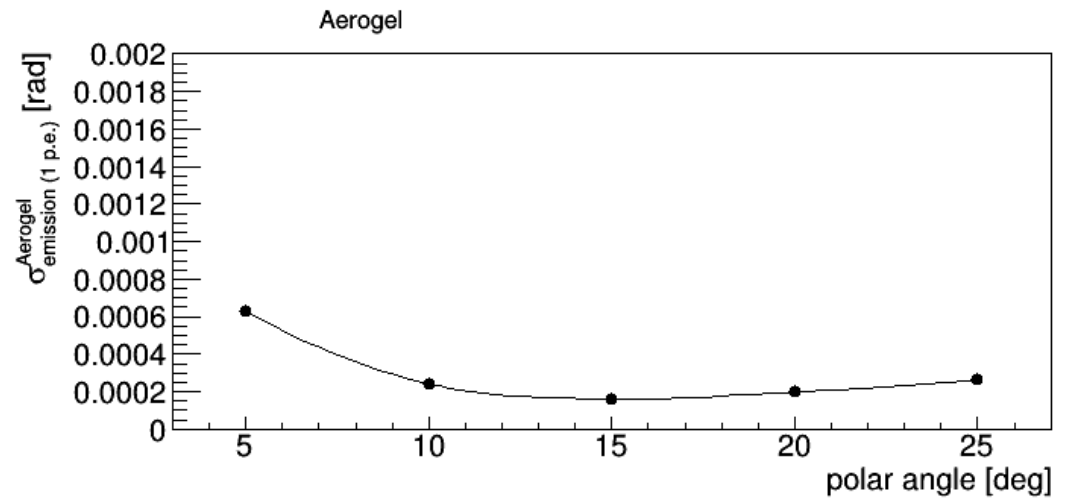
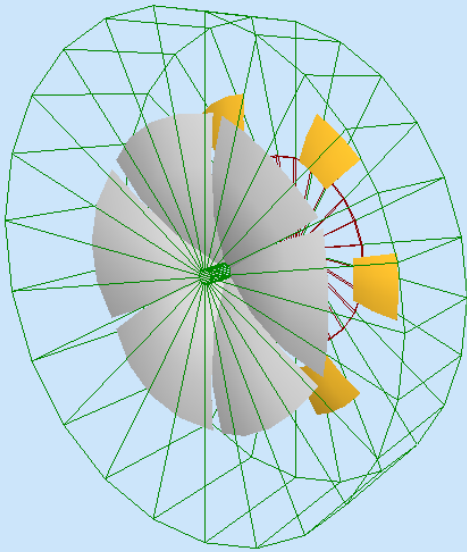
Dual-radiator RICH: update

Alessio Del Dotto for the EIC PID/RICH collaboration
April 24, 2017

Emission error – Spherical shape

Is the error due to the distance between the detector surface and the focal surface.

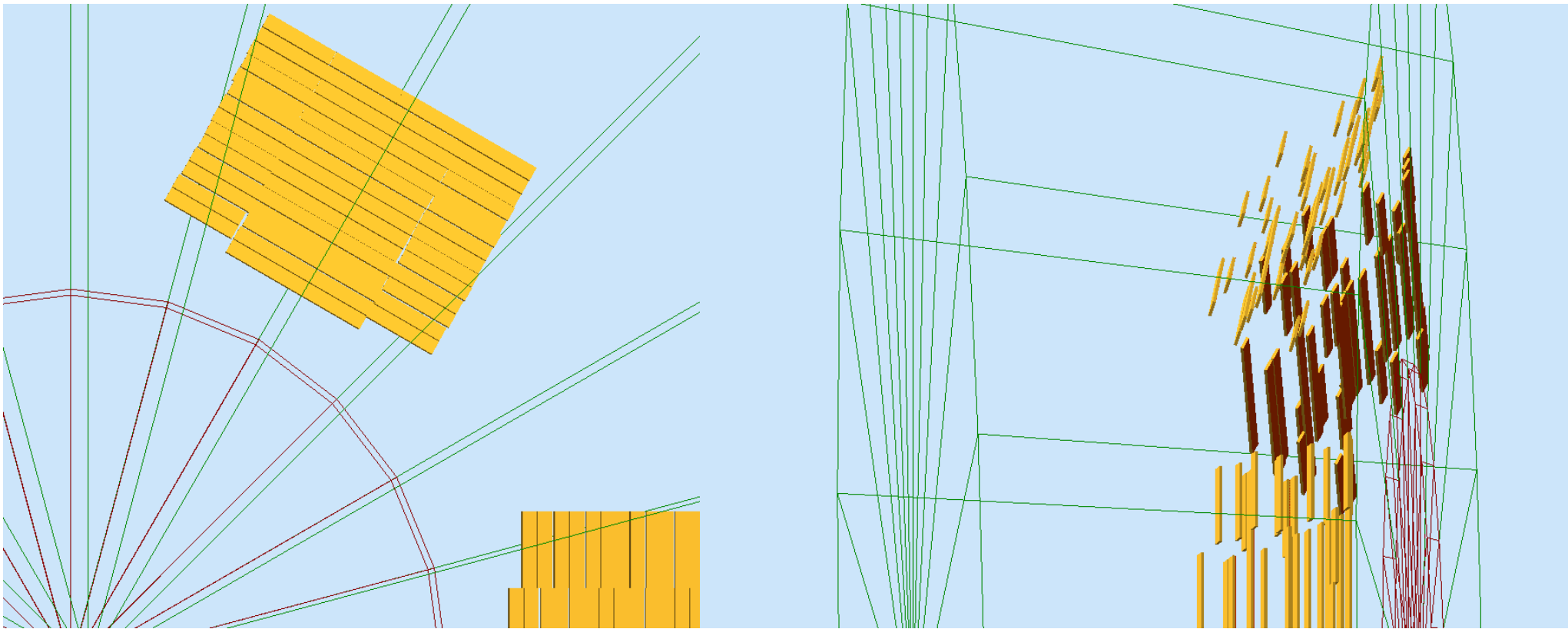
Old spherical shape of the detector



Emission error – Spherical shape

Is the error due to the distance between the detector surface and the focal surface.

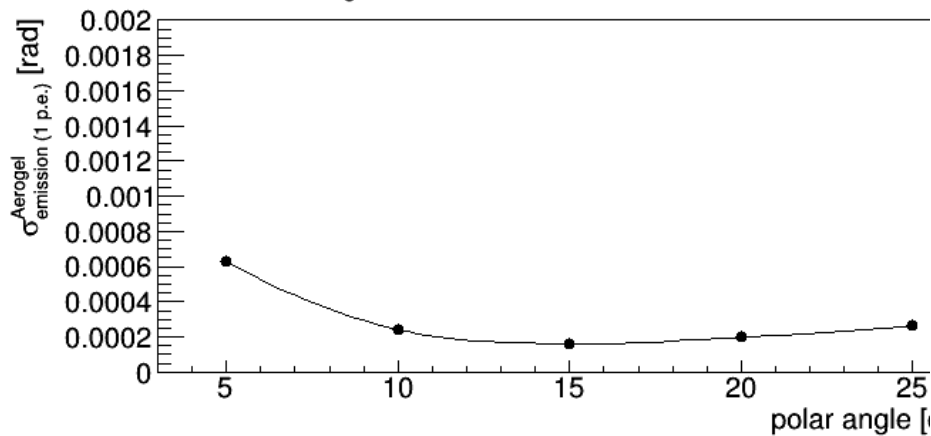
Ladder-like configuratoion --> each tile is 5X25 cm²



Emission errors – preliminary comparison

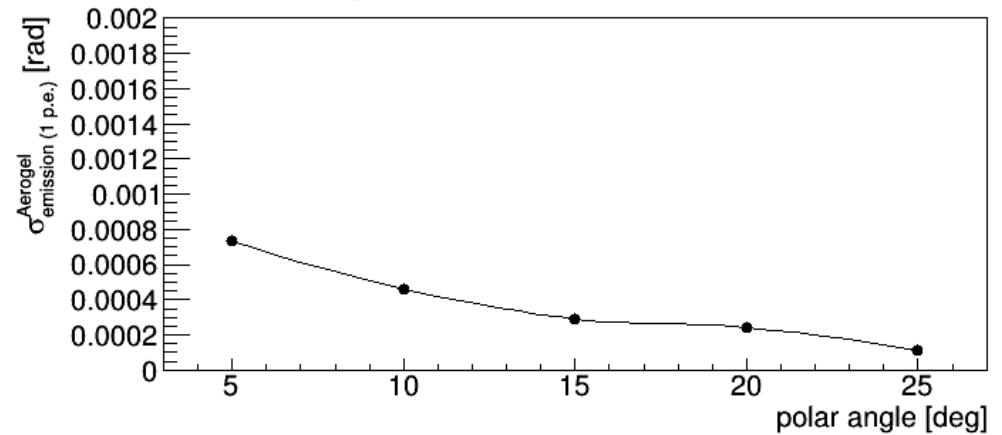
Spherical shape

Aerogel

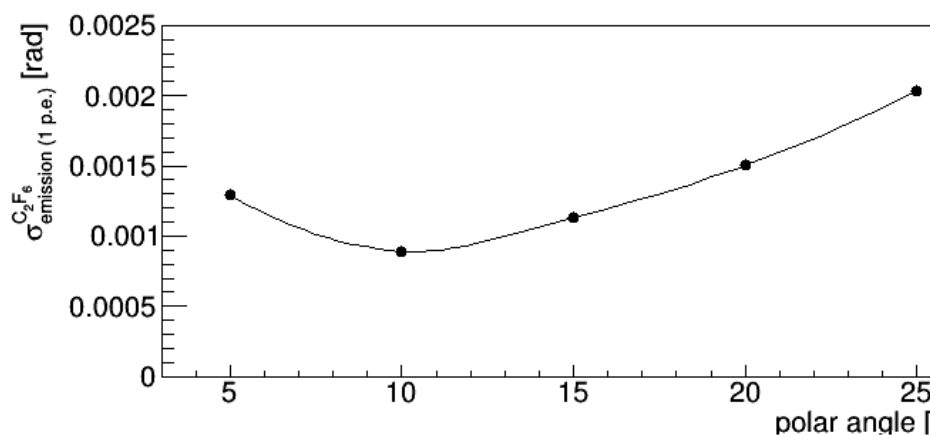


Ladder-like

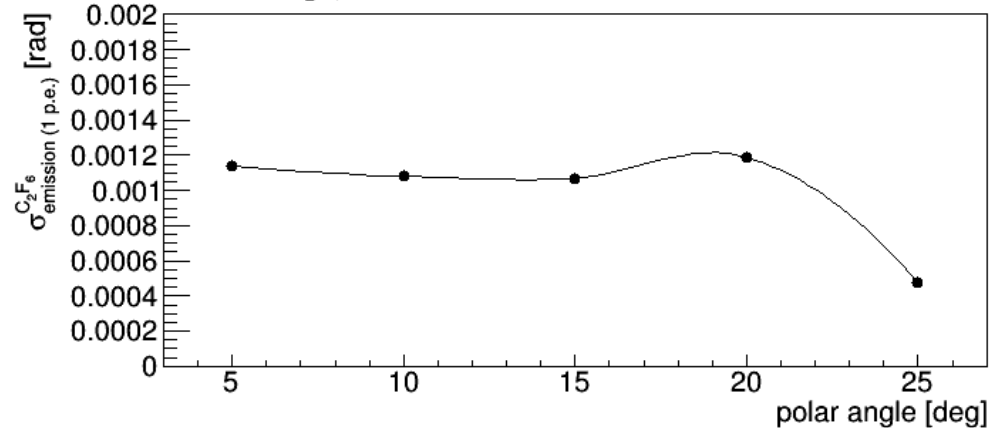
Aerogel



C_2F_6 gas



C_2F_6 gas



The choice should be also driven by the physical phase space ...

Next steps

- Validation of the new photo-detector
 - Study of the emission error
 - Study of the weighted focal distribution
 - ...
- Preliminary version of the note on the prototype uploaded

dRICH BNL version

Progresses are going on:

- ePHENIX (Nils Feege)

No news

- BEAST (Alexander Kiselev)

We (I, Zhiwen) had a mail correspondence with Alex. We asked some detail in order to run the RICH in GEMC, but eRD20 want to go differently. Not easy to have a feedback.

- They are developing their codes for the simulation, with only gas for the moment. I providede to Alexander a reco class containing the IRT algorithm. It works with their gas RICH simulation.

Alexander's ideas (ERD20) as I understand it

A shared and site-neutral software development project

Where

- The experience of the R&Ds can be collected in a “neutral” form
- A coherent software framework can be set (long term program)
- He asks for communication with eRD14 and other R&Ds to find a common way on that

Someone for a presentation to the next JLab eRD20 meeting 1-2 May